

Remarks

The various parts of the Office Action (and other matters, if any) are discussed below under appropriate headings.

Claim Rejections - 35 USC § 102 and § 103

Claims 3-5, 22, 24-30, and 32-54 have been rejected under 35 U.S.C. § 102(b) or § 103(a) as being unpatentable over U.S. Patent No. 4,238,198 to Swaim et al. ("Swaim") and/or "Chromium Reducible Sulfur" by Sullivan et al. ("Sullivan").

Claims 3-5, 22, 24-30, and 33-54 have been canceled and replaced by new claims 55-73. The new claims include independent claims 55 and 67. New claim 55 sets forth a portable apparatus for in-field and laboratory measurement of reduced inorganic sulfur content of a sample. The portable apparatus includes, *inter alia*, a control means for controlling operation of the apparatus, said control means controlling at least operation of the detection means during analysis of the sample, and a trap for removing hydrogen sulfide from an exit gas stream leaving the apparatus.

New claim 67 sets forth a portable apparatus for in-field and laboratory measurement of reduced inorganic sulfur content of a sample including, *inter alia*, a computer control means for controlling operation of the apparatus. The computer control means is operative to control a variety of functions including: upon initiation of an analysis by an operator, to transfer acid from the acid reservoir to the reaction chamber, to initiate operation of the heating means, to initiate operation of the detector means, to monitor a level of evolution of hydrogen sulfide from the reaction chamber, and to initiate supply of the inert or non-reactive gas to the reaction chamber.

Swaim does not appear to disclose a control means or a trap as set forth in claims 55 and 67 and, therefore, it is respectfully submitted that new claims 55 and 67 are neither anticipated by nor obvious in view of Swaim. Indeed, it is believed that column 4, lines 17-21 of Swaim, in stating that the apparatus includes a gas flow meter or regulator, adjustable between flow rates of 1-10 standard cubic feet per hour, requires operator adjustment and therefore the purging gas used to purge the monochromator is controlled by an operator. Thus, the apparatus of Swaim does not include control means for controlling operation of the apparatus, as set forth in either of claims 55 or 67.

In addition, no mention has been found in Swaim as to the inclusion of a trap for removing hydrogen sulfide from an exit gas stream leaving the apparatus. Consequently, Swaim's apparatus must be used within the confines of a fume hood (as hydrogen sulfide gas is a toxic gas). Accordingly, unlike the apparatus of claims 55 and 67, the apparatus of Swaim is not suitable for in-field analysis. Further, in requiring generation of a plasma, Swaim's apparatus would not be a portable apparatus as set forth in claims 55 and 67.

The apparatus as defined in new claims 55 and 67 can provide one or more of the following advantages. It can be used to obtain measurements of reduced inorganic sulfur content in the field without requiring the use of highly trained or highly skilled technicians to obtain satisfactory measurements. The inclusion of the trap for removing hydrogen sulfide from the exit gas stream permits trapping the hydrogen sulfide emitted during each analysis so that it can be separately analysed in a laboratory environment as a means of cross-checking the accuracy of the apparatus. The apparatus permits analysis of samples in the field rather than having to return the samples to a laboratory for analysis.

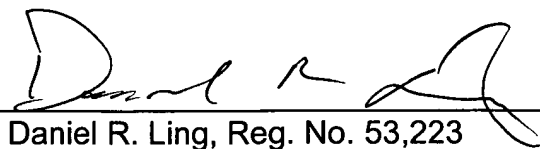
Sullivan does not overcome the deficiencies of Swaim vis-a-vis new claims 55 and 67.

Conclusion

In view of the foregoing, request is made for timely issuance of a notice of allowance.

Respectfully submitted,

RENNER, OTTO, BOISSELLE & SKLAR, LLP

By 
Daniel R. Ling, Reg. No. 53,223

1621 Euclid Avenue
Nineteenth Floor
Cleveland, Ohio 44115
(216) 621-1113



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